	Application No.	Applicant(s)
Notice of Allowability	10/575,339	MAUCKSCH, THOMAS
	Examiner	Art Unit	
	Guerrier Merant	2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to <u>09/08/08</u>.

2. ☒ The allowed claim(s) is/are <u>1-8</u>.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>05/10/06;04/10/06</u>

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date <u>10/05/10</u> .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☒ Other <u>PTO 413</u>.

/Jeffrey A Gaffin/
Supervisory Patent Examiner, Art Unit 2100

DETAILED ACTION

1.   This communication is responsive to 09/08/08. Claims 1-8 are presented for

examination.

Oath/Declaration

2.   The Oath/Declaration, filed 09/08/08, complies with the requirements set forth in

MPEP 602 and therefore is accepted.

Information Disclosure Statement

3.   The information disclosure statement (IDS) submitted on 04/10/06 & 05/10/06 is

in compliance with the provisions of 37 CFR 1.97.   Accordingly, the information

disclosure statement is being considered by the examiner.

EXAMINER'S AMENDMENT

4.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

       Authorization for this examiner's amendment was given in a telephone interview

with Keth Ditthavong on 10/05/10.

       The application has been amended as follows:

Claim 1. **A** ~~Method~~ method for testing ~~the error ratio~~ **a bit error ratio** of a device under test

against a specified allowable error ratio **comprising** ~~with~~ the following steps:

[[-]] measuring ns samples of the output of the device, thereby detecting ne erroneous

samples of these ns samples [[,]]**;**

[[-]] defining BER (ne) =ne/ns as the preliminary error ratio**;** and

[[-]] deciding to pass the device, if the preliminary error ratio BER (ne) is smaller than an

early pass limit EPL (ne),

wherein ~~characterized in that~~ the early pass limit is constructed by using an empirically

or analytically derived distribution for a specific number of devices each having exactly

the specified allowable error ratio by separating a specific portion DD of the ~~best~~ devices

from the distribution for a specific number of erroneous samples ne**;** and

proceeding further with the remaining part of the distribution for an incremented number of

erroneous samples**,**

wherein DD represents pass probability.

Claim 2. **The** **method** for testing the error ratio according to claim 1, ~~characterized in that~~

wherein the first point of the early pass limit is constructed by using an empirically derived

distribution with the following steps:

[[-]] simulating the error ~~behaviour~~ **behavior** of a high number of devices each having the

specified allowable error ratio,

[[-]] noting in a first column of a table the number n_1 of samples until the first error occurs

for each individual device,

[[-]] calculating the preliminary error ratio BER (ne=l) of the first error by BER(ne=l) = $1/n_1$

[[-]] separating the ~~best~~ DD devices and identifying a separation point, which marks the preliminary error ratio BER(ne=l) of ~~the worst~~ another subset of the DD devices, as the first point EPL(ne=l) of the early pass limit.

Claim 3. **The** ~~Method~~ **method** for testing the error ratio according to claim 2, ~~characterized in that~~ **wherein** the next point of the early pass limit is constructed by the following steps:

simulating the error ~~behaviour~~ **behavior** of the remaining devices,

noting in the next column of the table the number n_i of samples until the next error occurs for each individual device,

[[-]] calculating the preliminary error ratio BER(ne) of the next error by BER(ne) = $ne/\sum_i n_i$

[[-]] separating the DD devices and identifying a separation point, which marks the preliminary error ratio BER(ne) of ~~the worst~~ another subset of the DD devices, as the next point EPL(ne) of the early pass limit and repeating the above steps.

Claim 4. **The** ~~Method~~ **method** for testing the error ratio according to claim 2 ~~or 3~~, ~~characterized in that~~ **wherein** the simulating the error ~~behaviour~~ behavior is done with a random generator or a pseudo random generator.

Claim 5. ~~The~~ **The** ~~Method~~ **method** for testing the error ratio according to claim 1, ~~characterized in that~~ **wherein** the first point of the early pass limit is constructed by using an analytically derived distribution with the following steps:

[[-]] defining a first preliminary distribution

$$P_1 (ns) = BER \cdot (1-BER)^{ns-1}$$

with

BER is the true error ratio of the device and P_1 is the probability to find the first error ne = 1 after ns samples,

[[-]] separating the D D ~~best~~ part from the 1-D D ~~worst~~ part of the distribution P_1 and identifying the separation point of the D D ~~best~~ part from the 1-D D ~~worst~~ part as the first point EPL(ne=l) of the early pass limit and

[[-]] defining the 1-D D ~~worst~~ part of the first preliminary distribution P_1 as a first distribution U_1 of undecided devices.

Claim 6. ~~The~~ **The** ~~Method~~ **method** for testing the error ratio according to claim 5, ~~characterized in that~~ **wherein** the next point of the early pass limit is constructed by the following steps:

defining a next preliminary distribution

$$T_2(ns) = U_1 (ns) \quad * P_1 (ns)$$

With

$T_2(ns)$ is the probability to find the next error after ns samples regarding the loss of the ~~best DUTs~~ specific portion of the devices from the previous step and

~~* is the convolution operation~~

[[-]] separating the D D ~~best~~ part from the 1-DD ~~worst~~ part of the distribution T_2 and identifying the separation point of the DD ~~best~~ part from the 1 - D D ~~worst~~ part as the next point EPL (ne) of the early pass limit,

[[-]] defining the 1-DD ~~worst~~ part of the distribution T_2 as the next distribution U_2 of undecided devices and

[[-]] repeating the above steps.

Claim 7. **The** ~~Method~~ **method** for testing the error ratio according to claim 1, ~~characterized in that~~ **wherein** the specific portion D D devices is selected with regard of the desired selectivity of the test.

Claim 8. **The** ~~Method~~ **method** for testing the error ratio according to claim 7, ~~characterized in that~~ **wherein** the selectivity of the test is defined as

(pass probability - (the complement of the pass probability, which is the fail probability)) / (error ratio of a bad device - specified allowable error ratio).

Allowable Subject Matter

Claims 1-7 are allowed. The following is an examiner's statement of reasons for allowance: The prior arts of record have failed to provide disclosure or support for the unique feature that is claimed wherein the early pass limit is constructed by using an empirically or analytically derived distribution for a specific number of devices each having exactly the specified allowable error ratio by separating a specific portion DD of the ~~best~~ devices from the distribution for a specific number of erroneous samples ne; and

proceeding further with the remaining part of the distribution for an incremented number of

erroneous samples,

wherein DD represents pass probability.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Guerrier Merant whose telephone number is (571) 270-

1066. The examiner can normally be reached on Monday - Friday. 8:30 AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerrier Merant
10/05/10

/Jeffrey A Gaffin/
Supervisory Patent Examiner, Art Unit 2100